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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/506,846

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Ann-Christine Eriksson

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

MAIL DATE

DELIVERY MODE

12/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/506,846

Applicant(s)

ERIKSSON ET AL.

Examiner

Jeffrey M. Rutkowski

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,6,9-11 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,6,9-11 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/03/2004, 12/29/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 4-5, 7-8 and 12-13 have been cancelled.

Information Disclosure Statement

1. The information disclosure statements filed 09/03/2004 and 12/29/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 10 is objected to because of the following informalities: the claim does not recite what words comprise the acronym PSET. Appropriate correction is required.

Examiner's Note

4. The applicant replaced base **claim 1** with **claim 14** in the application. To provide clarity, **claim 14** will be presented before any claims dependent upon **claim 14**.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 2-3, 6, 14-17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. For **claim 14**, the term “scheduling radio resources based on the following parameters...” in the claim renders the claims indefinite because it is not clear whether other parameters could also be used when scheduling resources. The examiner has given the limitation an open-ended interpretation.
8. **Claims 2-3, 6, and 17** are indefinite due to their dependence on **claim 14**.
9. **Claim 11** is indefinite because of an empty space between the weight and the sum of the scheduling numbers. Variables written in the form of ab , imply multiplication. Whereas it is unclear what is meant when variables are written in the form of $a\ b$. Also, the scheduling number in the present claim written as S , not as S_i , renders the claim indefinite since the use of S implies a scheduling number different from scheduling number S_i .
10. **Claim 19** lacks antecedent basis for S_i , since parent **claim 9** only recites a value of S , not S_i .

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 2, 9-10 and 14-15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et al. (US Pat 6,748,220), hereinafter referred to as Chow, in view of Onvural et al. (US Pg Pub 2002/0150115), hereinafter referred to as Onvural.

13. For **claim 14**, Chow teaches resource allocation in wireless networks [title]. A user's behavior is observed by monitoring the quality of a Temporary Block Flow (TBF). When the quality of the TBF changes the bit rate and/or coding schemes are re-negotiated to reflect to accommodate the change [col. 5 lines 49-64]. A quality metric is transmitted from a Mobile Station (MS) to a Base Station (BS) that allows the base station to assess the quality of the TBF [col. 9 lines 17-30]. When assigning traffic blocks 208 within a pool of resources 200 (scheduling radio resources), the number of traffic blocks available for allocation are taken into account (earlier schedulings of radio resources). The quality metric, which reflects the user's behavior, is taken into account as a parameter since resources are re-allocated (re-scheduled) according the value of the quality metric.

14. Chow teaches the use of quality metrics and weighting [figure 3]. Chow does not associate a weight with a level of Quality of Service (QoS). Onvural teaches the weighting limitation absent from the teachings of Chow by disclosing a Weighted Round Robin (WRR)

method where weights are based upon QoS parameters. In the WRR scheme, queue (user) weights are compared to determine the servicing order [0033]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use WRR in Chow's invention to ensure a desirable QoS is maintained, while not starving other queues.

15. For **claim 2**, which depends from **claim 14**, Chow teaches active TBFs are given priority over new TBFs [col. 8 lines 17-20]. This is essentially the same as calculating a scheduling number, since the order of the TBFs is based upon previous scheduled TBFs. The weight of available traffic blocks is used to determine (creating a relationship) the allocation of resource blocks [col. 10 lines 28-30 and figure 3]. A relationship exists between the weight and the scheduling number because the allocation of traffic blocks determines the scheduling number.

16. For **claim 9**, Chow teaches a resource allocator 400, which may be included in a BS, includes a Central Processing Unit (CPU) to perform resource allocation operations (means for calculating) [col. 8 lines 25-30 and 51-58].

17. Chow does not teach a means for taking users into account. Onvural teaches the means for taking users into account by disclosing a sorter 14 uses a WRR algorithm that selects packets from an array of input queues [0032-0033]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a sorter in Chow's invention to ensure a desirable QoS is maintained, while not starving other queues.

18. For **claim 10**, which depends from **claim 9**, Chow teaches a MS is assigned one or more timeslots 252 in a data frame 250 [col. 6 lines 35-40].

19. For **claim 15**, which depends from **claim 14**, Chow teaches TBFs are exchanged between the BS and MS [col. 2 lines 50-55 and figure 2C].

Conclusion

20. **Claims 3, 6, 11, 17 and 19** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
12/11/2007

JMR

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SUPERVISORY PATENT EXAMINER

